

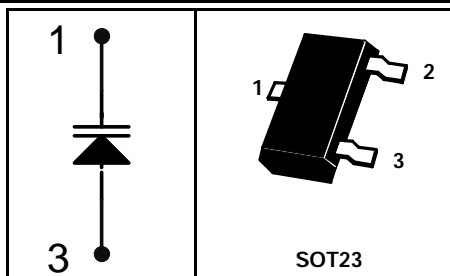
# SOT23 SILICON VARIABLE CAPACITANCE DIODES

ZC830/A/B  
to  
ZC836/A/B

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## FEATURES

- \* Close Tolerance C-V Characteristics
- \* High Tuning Ratio
- \* Low  $I_R$   
Enabling Excellent Phase Noise Performance  
( $I_R$  Typically <200pA at 25V)



## ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	MAX	UNIT
Forward Current	$I_F$	200	mA
Power Dissipation at $T_{amb}=25^\circ\text{C}$	$P_{tot}$	330	mW
Operating and Storage Temperature Range	$T_J:T_{stg}$	-55 to +150	$^\circ\text{C}$

## ELECTRICAL CHARACTERISTICS (at $T_{amb}=25^\circ\text{C}$ )

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	CONDITIONS
Reverse Breakdown Voltage	$V_{BR}$	25			V	$I_R=10\mu\text{A}$
Reverse Voltage Leakage	$I_R$		0.2	10	nA	$V_R=20\text{V}$
Temperature Coefficient of Capacitance	$\eta$		0.03	0.04	%/ $^\circ\text{C}$	$V_R=3\text{V}$ , $f=1\text{MHz}$

## TUNING CHARACTERISTICS (at $T_{amb}=25^\circ\text{C}$ )

PART NO	Nominal Capacitance (pF) $V_R=2\text{V}$ , $f=1\text{MHz}$			Minimum Q @ $V_R=3\text{V}$ $f=50\text{MHz}$	Capacitance Ratio $C_2 / C_{20}$ at $f=1\text{MHz}$	
	MIN	NOM	MAX		MIN	MAX
ZC830A	9.0	10.0	11.0	300	4.5	6.0
ZC831A	13.5	15.0	16.5	300	4.5	6.0
ZC832A	19.8	22.0	24.2	200	5.0	6.5
ZC833A	29.7	33.0	36.3	200	5.0	6.5
ZC834A	42.3	47.0	51.7	200	5.0	6.5
ZC835A	61.2	68.0	74.8	100	5.0	6.5
ZC836A	90.0	100.0	110.0	100	5.0	6.5

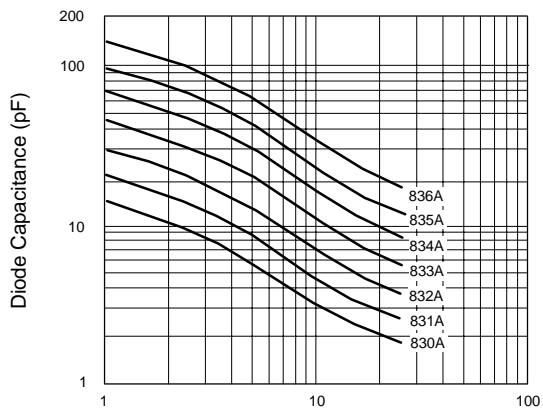
### Note:

No suffix  $\pm 20\%$  (e.g. ZC830), suffix B  $\pm 5\%$  (e.g. ZC830B)  
Spice parameter data is available upon request for this device

**ZC830/A/B  
to  
ZC836/A/B**

**PARTMARKING DETAILS**

PART NO	PARTMARK	PART NO	PARTMARK	PART NO	PARTMARK
ZC830	J1S	ZC830A	J1A	ZC830B	J1B
ZC831	J3S	ZC831A	J3A	ZC831B	J3B
ZC832	J4S	ZC832A	J4A	ZC832B	J4B
ZC833	J2S	ZC833A	J2A	ZC833B	J2B
ZC834	J5S	ZC834A	J5A	ZC834B	J5B
ZC835	J6S	ZC835A	J6A	ZC835B	J6B
ZC836	J7S	ZC836A	J7A	ZC836B	J7B



Reverse Voltage (Volts)

Diode Capacitance

[www.s-manuals.com](http://www.s-manuals.com)